

1 atgcactcaa gcagagaaga aatccacaag tactcaccag cctcctgggc tgcagagaag  
 61 acagaatcaa tatg agc aca gca gga aaa gta atc aaa tgc aaa gca gct gtg cta tgg g  
     M S T A G K V I K C K A A V L W E 17  
 121 ag tta aag aaa ccc ttt tcc att gag gag gta gag gtt gca cct cct aag gct cat gaa g  
     L K K P F S I E E V E V A P P K A H E V 37  
 181 tt cgc att aag atg gtg gct gca gga atc tgt cgt tca gat gag cat gtg gtt agt ggc a  
     R I K M V A A G I C R S D E H V V S G N 57  
 241 ac ctg gtg acc ccc ctt cct gtg att tta ggc cat gag gca gcc ggc atc gtg gaa agt g  
     L V T P L P V I L G H E A A G I V E S V 77  
 301 tt gga gaa ggg gtg act aca gtc aaa cca ggt gat aaa gtc atc ccg ctc ttt act cct c  
     G E G V T T V K P G D K V I P L F T P Q 97  
 361 ag tgt gga aaa tgc aga att tgt aaa aac cca gaa agc aac tac tgc ttg aaa aat gat c  
     C G K C R I C K N P E S N Y C L K N D L 117  
 421 ta ggc aat cct cgg ggg acc ctg cag gat ggc acc agg agg ttc acc tgc agc ggg aag c  
     G N P R G T L Q D G T R R F T C S G K P 137  
 481 cc atc cac cac ttc gtc ggc gtc agc acc ttc tcc cag tac aca gtg gtg gat gag aat g  
     I H H F V G V S T F S Q Y T V V D E N A 157  
 541 ca gtg gcc aaa att gat gca gcc tcg ccc ctg gag aaa gtc tgc ctc att ggc tgt gga t  
     V A K I D A A S P L E K V C L I G C G F 177  
 601 tt tcg act ggt tat ggg tct gca gtc aaa gtt gcc aag gtc acc cca ggg tct acc tgt g  
     S T G Y G S A V K V A K V T P G S T C A 197  
 661 ct gtg ttt ggc ctg gga ggg gtc ggc cta tct gtt gtt atg ggc tgt aaa gca gct gga g  
     V F G L G G V G L S V V M G C K A A G A 217  
 721 ca gcc aga atc att gct gtg gac atc aac aag gac aaa ttt gca aag gct aaa gag ttg g  
     A R I I A V D I N K D K F A K A K E L G 237  
 781 gg gcc act gaa tgc atc aac cct caa gac tac aag aaa ccc att cag gaa gtg cta aag g  
     A T E C I N P Q D Y K K P I Q E V L K E 257  
 841 aa atg act gat gga ggt gtg gat ttt tcg ttt gaa gtc atc ggt cgg ctt gac acc atg a  
     M T D G G V D F S F E V I G R L D T M M 277  
 901 tg gct tcc ctg tta tgt tgt cat gag gca tgt ggc aca agt gtc att gta ggg gta cct c  
     A S L L C C H E A C G T S V I V G V P P 297  
 961 ct gat tcc cag aac ctc tca ata aac cct atg ctg cta ctg act gga cgc acg tgg aaa g  
     D S Q N L S I N P M L L L T G R T W K G 317  
 1021 ga gct att ttt gga ggc ttt aag agt aaa gaa tct gtc ccg aaa ctt gtg gct gac ttt a  
     A I F G G F K S K E S V P K L V A D F M 337  
 1081 tg gct aag aag ttt tca ctg gat gca tta ata aca aat att tta cct ttt gaa aaa ata a  
     A K K F S L D A L I T N I L P F E K I N 357  
 1141 at gaa gga ttt gac ctg ctt cgc tct gga aag agt atc cgt acc gtc ctg acg ttt tgaa  
     E G F D L L R S G K S I R T V L T F STOP 375  
 1201 acaatacaga tgccttcct ttagcagtt ttcagcctcc tctaccctac atgatctgga  
 1261 gcaacagcta ggaaatatca ttaattctgc tcttcagaga tgttaaaaat aaattacacg  
 1321 tgggagcttt ccaaagaaat ggaaattgat gggaaattat ttgtcaagca aatgtttaaa

1381 atccaaatga gaactaaata aagtgttgaa catcaactgg ggaattgaag ccaataaacc  
1441 ttccttctta accattcaaa aaaaaaaaaa

**Figure 1**

Number forward sequences

F1 TGAGAAAGGGTGAC  
F2 CGTGGAAAGTGTTG  
F3 TTTGAGAAGGGGTG  
F4 TTGAGAAGGGGTGA  
F5 GTGGAAAGTGTTGAG  
F6 GTTTGAGAAGGGGT  
F7 TCGTGGAAAGTGTTT  
F8 AAAGTGTTTGAGAAGG  
F9 GAAAGTGTTTGAGAAGG  
F10 GGAAAGTGTTTGAGAA  
F11 TGTTTGAGAAGGGG  
F12 GTGTTTGAGAAGGGG  
F13 AAGTGTTTGAGAAGGG  
F14 AGTGTTTGAGAAGGG  
F15 TGGAAAGTGTTTGAGA  
F16 TTTGAGAAGGGGTGACTAC  
F17 TGAGAAGGGGTGACTACA  
F18 TTGAGAAGGGGTGACTACA  
F19 ATCGTGGAAAGTGTTGA  
F20 GTTTGAGAAGGGGTGACT  
F21 CATCGTGGAAAGTGTTG  
F22 GTGTTTGAGAAGGGGTG  
F23 AGTGTTTGAGAAGGGGTG  
F24 TGTTTGAGAAGGGGTGA  
F25 TCGTGGAAAGTGTTGAG  
F26 AAGTGTTTGAGAAGGGGT  
F27 GTGGAAAGTGTTTGAGAAGG  
F28 TGGAAAGTGTTTGAGAAGG  
F29 GAAAGTGTTTGAGAAGGGG  
F30 AAAGTGTTTGAGAAGGGG  
F31 GCATCGTGGAAAGTGTT  
F32 GGAAAGTGTTTGAGAAGGG  
F33 CGTGGAAAGTGTTTGAGA  
F34 AGTGTTTGAGAAGGGGTGACTACA  
F35 TGTTTGAGAAGGGGTGACTACAGT  
F36 GAAAGTGTTTGAGAAGGGGTGAC  
F37 GGCATCGTGGAAAGTGTTG  
F38 GGAAAGTGTTTGAGAAGGGGTG  
F39 TCGTGGAAAGTGTTTGAGAAGG  
F40 ATCGTGGAAAGTGTTTGAGAAGG  
F41 TGGAAAGTGTTTGAGAAGGGG  
F42 GTGGAAAGTGTTTGAGAAGGGG  
F43 GTGTTTGAGAAGGGGTGACTACAG  
F44 AGTGTTTGAGAAGGGGTGACTACAGTC  
F45 GTGTTTGAGAAGGGGTGACTACAGTC  
F46 AAAGTGTTTGAGAAGGGGTGACTACA  
F17 GAAAGTGTTTGAGAAGGGGTGACTACA  
F30 TTGAGAAGGGGTGACTACAGTCAAA  
F39 GGCATCGTGGAAAGTGTTGA  
F47 TGGAAAGTGTTTGAGAAGGGGTG  
F48 GTGGAAAGTGTTTGAGAAGGGGTG  
F49 GGAAAGTGTTTGAGAAGGGGTGA  
F50 CGGCATCGTGGAAAGTGTTT  
F51 CATCGTGGAAAGTGTTTGAGAAGG  
F52 GCATCGTGGAAAGTGTTTGAGAA  
F53 ATCGTGGAAAGTGTTTGAGAAGGG  
F54 CGTGGAAAGTGTTTGAGAAGGG  
F55 AAGTGTTTGAGAAGGGGTGACTACAG

2/3 cont.

F56 GCCATGAGGCAGCCGGCATCG  
F57 GAGGCAGCCGGCATCGTGGA  
F58 ATGAGGCAGCCGGCATCGTGGA  
F59 CCATGAGGCAGCCGGCATCGTG  
F60 ATCGTGGAAGTGTTTGAGAAGGGGTGACTACAGTC  
F61 CGTGGAAGTGTTTGAGAAGGGGTGACTACAGTC  
F62 GGCCATGAGGCAGCCGGCA  
F63 AGGCCATGAGGCAGCCGGCA  
F64 TAGGCCATGAGGCAGCCGGCA  
F65 TTAGGCCATGAGGCAGCCGGCA  
F66 TTTAGGCCATGAGGCAGCCGGCA  
F67 ATTTTAGGCCATGAGGCAGCCGGCA  
F68 TTTTAGGCCATGAGGCAGCCGGCA  
F69 CATGAGGCAGCCGGCATCGTGG  
F70 GGAAAGTGTTTGAGAAGGGGTGACTACAGTCAAACC  
F71 TGGAAAGTGTTTGAGAAGGGGTGACTACAGTCAAACC  
F72 TGAGGCAGCCGGCATCGTGG  
F73 CATCGTGGAAGTGTTTGAGAAGGGGTGACTACA  
F74 GAGAAGGGGTGACTACAGTCAAACCAGGTACAGGA  
F75 GATTTTAGGCCATGAGGCAGCCGGC  
F76 GGGTGACTACAGTCAAACCAGGTACAGGATTACACA  
F77 GTGATTTTAGGCCATGAGGCAGCCGG  
F78 TGATTTTAGGCCATGAGGCAGCCGG  
F79 CCTGTGATTTTAGGCCATGAGGCAGCCG  
F80 CTGTGATTTTAGGCCATGAGGCAGCCG  
F81 TGTGATTTTAGGCCATGAGGCAGCCG  
F82 TCGTGGAAGTGTTTGAGAAGGGGTGACTACAGT  
F83 TGTTTGAGAAGGGGTGACTACAGTCAAACCAGGT  
F84 TTTGAGAAGGGGTGACTACAGTCAAACCAGGTACAGG  
F85 TTGAGAAGGGGTGACTACAGTCAAACCAGGTACAGG  
F86 TGAGAAGGGGTGACTACAGTCAAACCAGGTACAGG  
F87 GTTTGAGAAGGGGTGACTACAGTCAAACCAGGTACAG  
F88 GAAAGTGTTTGAGAAGGGGTGACTACAGTCAAACCAG  
F89 AGAAGGGGTGACTACAGTCAAACCAGGTACAGGATTTC  
F90 GAAGGGGTGACTACAGTCAAACCAGGTACAGGATTTC  
F91 GGGGTGACTACAGTCAAACCAGGTACAGGATTCA  
F92 AGGGGTGACTACAGTCAAACCAGGTACAGGATTCA  
F93 AAGGGGTGACTACAGTCAAACCAGGTACAGGATTCA  
F94 CCCTTCCTGTGATTTTAGGCCATGAGGCA  
F95 CAGCCGGCATCGTGGAAGTGTTTG  
F96 GCATCGTGGAAGTGTTTGAGAAGGGGTG  
F97 AAAGTGTTTGAGAAGGGGTGACTACAGTCAAACCAGG  
F98 AAGTGTTTGAGAAGGGGTGACTACAGTCAAACCAGG  
F99 AGTGTTTGAGAAGGGGTGACTACAGTCAAACCAGG  
F100 GTGTTTGAGAAGGGGTGACTACAGTCAAACCAGG  
F101 CAGTCAAACCAGGTACAGGATTACACTCAGGG  
F102 GACTACAGTCAAACCAGGTACAGGATTACACTCAGGG  
F103 ACAGTCAAACCAGGTACAGGATTACACTCAGGG  
F104 TACAGTCAAACCAGGTACAGGATTACACTCAGGG  
F105 CTACAGTCAAACCAGGTACAGGATTACACTCAGGG  
F106 ACTACAGTCAAACCAGGTACAGGATTACACTCAGGG  
F107 GGCAGCCGGCATCGTGGAAGTG  
F108 AGGCAGCCGGCATCGTGGAAGTG  
F109 GTGACTACAGTCAAACCAGGTACAGGATTACACTCAGG  
F110 TGACTACAGTCAAACCAGGTACAGGATTACACTCAGG  
F111 GGTGACTACAGTCAAACCAGGTACAGGATTACACTCA  
F112 TCCTGTGATTTTAGGCCATGAGGCAGCC  
F113 TTCCTGTGATTTTAGGCCATGAGGCAGCC  
F114 CTCCTGTGATTTTAGGCCATGAGGCAGCC  
F115 CCGGCATCGTGGAAGTGTTTGAGAAGG  
F116 GGCATCGTGGAAGTGTTTGAGAAGGGG

2/3 cont.

F117 CCTTCCTGTGATTTTAGGCCATGAGGCAGC  
F118 GCAGCCGGCATCGTGAAAGTGTT  
F119 CGGCATCGTGAAAGTGTTTGAGAAGGG  
F120 AGCCGGCATCGTGAAAGTGTTTGAGA  
F121 GCCGGCATCGTGAAAGTGTTTGAGA

Number reverse sequences

R1 AACACTTTCCACGAT  
R2 AAACACTTTCCACGA  
R3 CAAACACTTTCCACG  
R4 CCTCATGGCCTAA  
R5 CCTCATGGCCTAAA  
R6 CCCCTTCTCAAACAC  
R7 CCCTTCTCAAACACT  
R8 CCCCTTCTCAAACA  
R9 TTCTCAAACACTTTCC  
R10 TCACCCCTTCTCAA  
R11 CCCTTCTCAAACACTT  
R12 GTCACCCCTTCTCA  
R13 CACCCCTTCTCAAA  
R14 ACCCCTTCTCAAAC  
R15 CTCAAACACTTTCCACGA  
R16 TCAAACACTTTCCACGAT  
R17 AACACTTTCCACGATGC  
R18 TCTCAAACACTTTCCACG  
R19 CAAACACTTTCCACGATG  
R20 CCCCTTCTCAAACACTTTC  
R21 CACCCCTTCTCAAACAC  
R22 CACCCCTTCTCAAACACT  
R23 CCTTCTCAAACACTTTCCAC  
R24 CCTTCTCAAACACTTTCCA  
R25 TCACCCCTTCTCAAACA  
R26 CCCTTCTCAAACACTTTCC  
R27 TGTAGTCACCCCTTCTCAA  
R28 ACCCCTTCTCAAACACTT  
R29 TGTAGTCACCCCTTCTCA  
R30 GTAGTCACCCCTTCTCAAA  
R31 CCCCTTCTCAAACACTTT  
R32 AGTCACCCCTTCTCAAAC  
R33 CAAACACTTTCCACGATGCC  
R34 CCTTCTCAAACACTTTCCACGA  
R35 CCTTCTCAAACACTTTCCACGAT  
R36 GTCACCCCTTCTCAAACACTTTC  
R37 CTGTAGTCACCCCTTCTCAAACAC  
R38 TGAGTCACCCCTTCTCAAACACT  
R39 CCCCTTCTCAAACACTTTCCAC  
R40 CCCCTTCTCAAACACTTTCCA  
R41 ACTGTAGTCACCCCTTCTCAAACA  
R42 CACCCCTTCTCAAACACTTTCC  
R43 AAACACTTTCCACGATGCCG  
R44 4TCAAACACTTTCCACGATGCC  
R45 CCCTTCTCAAACACTTTCCACGAT  
R46 CCCTTCTCAAACACTTTCCACGA  
R47 TTCTCAAACACTTTCCACGATGC  
R48 CCCTTCTCAAACACTTTCCACG  
R49 CCTTCTCAAACACTTTCCACGATG  
R50 TGAGTCACCCCTTCTCAAACACTTTC  
R51 GACTGTAGTCACCCCTTCTCAAACAC  
R52 CACCCCTTCTCAAACACTTTCCAC  
R53 CACCCCTTCTCAAACACTTTCCA  
R54 TGACTGTAGTCACCCCTTCTCAAACA

2/3 cont.

R55 TCACCCCTTCTCAAACACTTTCC  
R56 CTGTAGTCACCCCTTCTCAAACACTT  
R57 GGTTTGACTGTAGTCACCCCTTCTCA  
R58 TTGACTGTAGTCACCCCTTCTCAAA  
R59 TGAGTCACCCCTTCTCAAACACTTT  
R60 TTGACTGTAGTCACCCCTTCTCAAAC  
R61 CCCTTCTCAAACACTTTCCACGATGCCG  
R62 CCTTCTCAAACACTTTCCACGATGCCGG  
R63 TCTCAAACACTTTCCACGATGCCGGC  
R64 CCCCTTCTCAAACACTTTCCACGATGCC  
R65 GACTGTAGTCACCCCTTCTCAAACACTTTCCACGAT  
R66 ACTGTAGTCACCCCTTCTCAAACACTTTCCACGA  
R67 CACCCCTTCTCAAACACTTTCCACGATGC  
R68 GACTGTAGTCACCCCTTCTCAAACACTTTCCACG  
R69 TCTCAAACACTTTCCACGATGCCGGCT  
R70 TGAGTCACCCCTTCTCAAACACTTTCCACGATG  
R71 CAAACACTTTCCACGATGCCGGCTG  
R72 CTGGTTTGACTGTAGTCACCCCTTCTCAAACACTTTC  
R73 CCTGGTTTGACTGTAGTCACCCCTTCTCAAACAC  
R74 CCTGGTTTGACTGTAGTCACCCCTTCTCAAACACT  
R75 GTTTGACTGTAGTCACCCCTTCTCAAACACTTTCCAC  
R76 GGTTTGACTGTAGTCACCCCTTCTCAAACACTTTCCA  
R77 ACCTGGTTTGACTGTAGTCACCCCTTCTCAAACA  
R78 GGTTTGACTGTAGTCACCCCTTCTCAAACACTTTCC  
R79 CCTGGTTTGACTGTAGTCACCCCTTCTCAAACACTT  
R80 CCTGGTTTGACTGTAGTCACCCCTTCTCAAACACTTT

**Figure 2**

## Number forward sequences

F1 GAAGACAGTGTTTCAGCTAACACTAACG  
 F2 ACCTTGTGCAAGTCCTTTTCGTC  
 F3 CCTTGTGCAAGTCCTTTTCGTC  
 F4 GGTGAAGGGTAGAATACACGCA  
 F5 ACAGTGTTTCAGCTAACACTAACGTGG  
 F6 GACAGTGTTTCAGCTAACACTAACGTG  
 F7 AGACAGTGTTTCAGCTAACACTAACGTG  
 F8 CAGTGTTTCAGCTAACACTAACGTGG  
 F9 TAATGGTTGAAGGGTAGAATACACGC  
 F10 ATAATGGTTGAAGGGTAGAATACACGC  
 F11 TGGTTGAAGGGTAGAATACACGC  
 F12 ATGGTTGAAGGGTAGAATACACGC  
 F13 AATGGTTGAAGGGTAGAATACACGC  
 F14 CCTTTCGTCTTTTCATTGCCTCG  
 F15 CTTTCGTCTTTTCATTGCCTCG  
 F16 TTTCGTCTTTTCATTGCCTCG  
 F17 CATAATGGTTGAAGGGTAGAATACACG  
 F18 TGAAGGGTAGAATACACGCATGC  
 F19 TGTGCAAGTCCTTTTCGTCTTT  
 F20 GTCTTTTCATTGCCTCGGTTTCC  
 F21 TCTTTCATTGCCTCGGTTTCC  
 F22 CTTTCATTGCCTCGGTTTCC  
 F23 GACCTTGTGCAAGTCCTTTTCG  
 F24 TGACCTTGTGCAAGTCCTTTTCG  
 F25 GTGACCTTGTGCAAGTCCTTTTCG  
 F26 TTCAGCTAACACTAACGTGGAAGTTAC  
 F27 CTTGTGCAAGTCCTTTTCGTCTTT  
 F28 TTGTGCAAGTCCTTTTCGTCTTT  
 F29 TTCCTCATCCAGGCTGACTAATC  
 F30 TTGAAGGGTAGAATACACGCATG  
 F31 GTTGAAGGGTAGAATACACGCATG  
 F32 AGTGTTTCAGCTAACACTAACGTGGA  
 F33 AACCTAGTGCCTGGCATCTAGTAGTAC  
 F34 CTAACCTAGTGCCTGGCATCTAGTAGT  
 F35 GTGTTTCAGCTAACACTAACGTGGA  
 F36 CCTAGTGCCTGGCATCTAGTAGTACA  
 F37 ACCTAGTGCCTGGCATCTAGTAGTACA  
 F38 TCTCCAGGCTCTAACCTAGTGCC  
 F39 ATCTCCAGGCTCTAACCTAGTGCC  
 F40 CTCCAGGCTCTAACCTAGTGCC  
 F41 TATCTCCAGGCTCTAACCTAGTGCC  
 F42 ATATCTCCAGGCTCTAACCTAGTGCC  
 F43 TATATCTCCAGGCTCTAACCTAGTGCC  
 F44 TGTTTCAGCTAACACTAACGTGGAAG  
 F45 CATGCCTGCCTGAAGTCATACA  
 F46 CGTCTTTTCATTGCCTCGGT  
 F47 GCCTGCCTGAAGTCATACATGC  
 F48 TCTAACCTAGTGCCTGGCATCTAGT  
 F49 CATGTTCCCTGAGTGTGAATCC  
 F50 CCTCATCCAGGCTGACTAATCTTG

## Number reverse complementary sequences

R1 GGCTGCAGGAATCTGTCGTT  
 R2 GCTGCAGGAATCTGTCGTTCA  
 R3 TGGCTGCAGGAATCTGTCG  
 R4 GGCTGCAGGAATCTGTCGT

3/3 cont.

R5 GGCTGCAGGAATCTGTCGTTTC  
R6 GCTGCAGGAATCTGTCGTTTCAG  
R7 CGTTCAGATGAGCATGTGGTTAGTG  
R8 CCTTCCTGTGATTTTAGGCCAT  
R9 TCAGATGAGCATGTGGTTAGTGG  
R10 GGGAAAAAGAGGAAGGTTTACTG  
R11 CAACCTGGTGACCCCCCTT  
R12 CGTTCAGATGAGCATGTGGTTAG  
R13 CGTTCAGATGAGCATGTGGTTAGT  
R14 CCTTCCTGTGATTTTAGGCCA  
R15 AGATGAGCATGTGGTTAGTGGC  
R16 TTAGAAAATTGGGTTTGTAAAGTCCA  
R17 TGAGCATGTGGTTAGTGGCAAC  
R18 CCCTTCCTGTGATTTTAGGCC  
R19 GGGTTTGTAAAGTCCATCTGACAGTC  
R20 AAGAGTTCACAATCAATTTGCATTAGA  
R21 CAAGAGTTCACAATCAATTTGCATTA  
R22 AATCTGTCGTTTCAAGATGAGCATGT  
R23 AGGGAAAAAGAGGAAGGTTTACTG  
R24 GAAAAAGAGGAAGGTTTACTGGAT  
R25 GGAAGGTTTACTGGATAACCTTG  
R26 GCATGTGGTTAGTGGCAACCT  
R27 AGAAAATTGGGTTTGTAAAGTCCATC  
R28 GGGTTTGTAAAGTCCATCTGACAGT  
R29 CAAGGGAAAAAGAGGAAGGTTTACTG  
R30 CCCCTTCCTGTGATTTTAGGCC  
R31 CAAGAGTTCACAATCAATTTGCATTAG  
R32 TCAAGGGAAAAAGAGGAAGGTTT  
R33 AAGGTTTACTGGATAACCTTGGA  
R34 GGGATTATCAGCAAAACCTTGA  
R35 TGGATAACCTTGGAGATAAACTGAATC  
R36 GGAAAAAGAGGAAGGTTTACTGG  
R37 TTGGGAATAGTAGGGATTATCAGCA  
R38 TGTGATTTTAGGCCATGAGGC  
R39 GGGATTATCAGCAAAACCTTGA  
R40 TGAGCATGTGGTTAGTGGCA  
R41 GGTGGCTGCAGGAATCTGTC  
R42 TCGTTCAGATGAGCATGTGGTTA  
R43 GGAATCTGTCGTTTCAAGATGAGC  
R44 TTTTCTTGGTGTAAATTTGCAATTC  
R45 GGTGGCTGCAGGAATCTGT  
R46 AAGGGAAAAAGAGGAAGGTTTACTG  
R47 GACTGGATAACCTTGGAGATAAACTGA  
R48 GAAGGTTTACTGGATAACCTTGG  
R49 TGTGGTTAGTGGCAACCTGGT  
R50 TGGGTTTGTAAAGTCCATCTGACAG

Figure 3